


Risk Integrated System of Closure

Health and Economics



History

- ◆ 3200 B.C. – Mesopotamia, First Recorded Risk Consultants
 - ◆ Insurance Companies – Hammurabi
 - ◆ Greeks and Romans – Established Cause and Effect
 - ◆ Probability – Blaise Pascal, 1657
 - ◆ Nuclear Power Plants – 1950s
 - ◆ OSHA and U.S. EPA – 1970s
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Purpose

- ◆ Strike a Balance
 - Cleanup to Zero Contamination is Not Always Possible or Practical
- ◆ Use Risk Assessment Tools
- ◆ Provide Flexible Approaches
- ◆ Develop Creative Solutions
- ◆ Reduce Processing Time
- ◆ Create Consistent Decision Making

Overview

- ◆ Default and Nondefault Approaches
- ◆ Default
 - Pre-approved methods
 - Simplified Review
 - Best For Some Sites
- ◆ Nondefault
 - Any Approach Can Be Proposed
 - IDEM Evaluates the Approach
 - Negotiated Agreement


Nondefault Risk Assessment

- ◆ Not All Sites Meet Default Criteria
 - ◆ Some Sites Started Under Old Criteria
 - ◆ Some Consultants Prefer Nondefault Approaches
 - ◆ Some Sites Can Not Be Cleaned Up In a Reasonable Amount of Time at a Reasonable Cost
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Nondefault Risk Assessment

- ◆ Alternative Sampling Plans
- ◆ Ground Water Modeling
- ◆ Plume Stability Monitoring
- ◆ Alternative Closure Levels
- ◆ Institutional Controls
 - Ground Water Ordinance
 - Activity Restrictions
 - Engineered Controls

Cost

- ◆ Risk Based Closures Save Money
 - ◆ Cost Structure
 - Up Front Sampling Cost
 - Risk Assessment Cost
 - Remedial Cost
 - ◆ Remedial Cost Is Where There Can Be Substantial Savings
 - ◆ Up Front Costs May Be Higher or Lower
 - ◆ Historical Methods Required No Risk Assessment
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Guidance

- ◆ RISC Technical Guide
 - Describes the Science
 - Establishes Default Procedures
 - Discusses Nondefault Approaches
- ◆ RISC User's Guide
 - Program Specific Information
 - Program Process
 - Unique Programmatic Items